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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,376	01/30/2002	Fumihiko Yamaguchi	Q68264	5389

7590 01/16/2003
SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

KUMAR, PREETI

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 01/16/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No

10/058,376

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Preeti Kumar

Art Unit

1751

SW
#7

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-8 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (US 4,937,123).

Chang et al. teach imparting stain resistance to fibrous polyamide materials, the solution comprising polymethacrylic acid, copolymers of methacrylic acid, or

Art Unit: 1751

combinations thereof, said polymethacrylic acid, copolymers of methacrylic acid, or combinations thereof being provided in a sufficient amount and having a solubility and molecular weight such that said solution is capable of providing said fibrous polyamide substrate with an improved acid colorant stain resistance. See abstract and col.3, ln.15-30. Chang et al. teach that sulfated castor oil is a particularly useful monomer for copolymerization with the methacrylic acid. See col.3, ln.65-col.4, ln.5. Chang et al. also teach that the methacrylic polymer is applied from an aqueous solution. The pH of the solution is below about 7, more preferably below about 5. See col.5, ln.8-11.

Specifically regarding the treatment process, Chang et al. teach that the methacrylic polymer can also be applied to polyamide fabrics by other methods well known to those skilled in the art. Other suitable methods include application by padding, low-pressure padding such as can be accomplished with Kuster Flexnip.TM. equipment, spray applicators such as those available from Otting International, or dip boxes which need not be equipped with moisture reduction apparatus such as squeeze rolls. The methacrylic polymer is generally applied in these methods from an aqueous solution at ambient conditions followed by steaming for from 15 to 180 seconds, then drying. See col.5, ln.50-65.

Chang et al. illustrate the preparation of a methacrylic polymer comprising a stain blocking agent, sulfated castor oil and a salt having a pH of 4.3. See col.6, ln.28-42 (Polymer A). In examples 1-14 and comparative examples C1-C4, Chang et al. illustrate the use of Polymer A to treat nylon carpet with the same process as recited by

Art Unit: 1751

the instant claims. See col.8, ln.15-70. Accordingly, the teachings of Chang et al. appear to anticipate the material limitations of the instant claims.

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (US 6,197,378), and further in view of Chang et al. (US 4,937,123).

Clark et al. teach a process which imparts exceptional anti-soiling, anti-staining and repellent properties to carpets. The process makes use of a water-based exhaustion process wherein the water-based treating solution contains (1) glassy fluorochemical material, glassy hydrocarbon material (col.8, ln.5-38), or combinations thereof; (2) a stainblocking material; (3) a polyvalent metal salt, acid, or combinations thereof; and (4) water. Subsequent to exhaustion, the wet treated carpet is heated, usually in a steaming step, rinsed, and dried in a dry heat oven. See abstract and col.5, ln.45-66.

Specifically regarding pH, Clark et al. teach the necessity of adjusting the pH of the treatment solution (e.g., by making it more acidic) so as to facilitate exhaustion of fluorochemical or other materials onto the fibrous substrate. Suitable acids that may be used in this regard include sulfuric acid, sulfamic acid, citric acid, hydrochloric acid, oxalic acid, and autoacid (a mixture of urea and sulfuric acid). While the optimal pH for the treatment solution may vary depending on the choice of materials, optimal results are generally obtained with a pH of less than about 5, and more preferably, a pH of less than about 3. See col.13, ln.25-35.

Specifically regarding claims 5 and 6, Clark et al. treat nylon, polypropylene and polyester carpet with a treatment liquid comprising a stainblocking composition,

Art Unit: 1751

steaming the carpet sample, washing with deionized water, and drying. See col.13, ln.35 to col.14, ln.25.

Specifically regarding salts, Clark et al. teach the utility of salts such as LiCl, NaCl, NaBr, NaI, KCl, CsCl, to improve the deposition of fluorochemical or hydrocarbon onto the fibrous substrate. See col.13, ln.14-24.

Clark et al. do not specifically teach a treatment liquid comprising a sulfated castor oil as recited by the instant claim 1. However, Clark et al. do suggest the use of hydrocarbons.

Chang et al. are relied upon as set forth above.

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to modify the Clark et al. by replacing hydrocarbon with a sulfated castor oil as disclosed by Chang et al., with a reasonable expectation of success, because the teachings Clark et al. in combination with Chang et al. suggest a treatment liquid comprising a sulfated castor oil for use in a similar process for imparting stain resistance.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above. Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

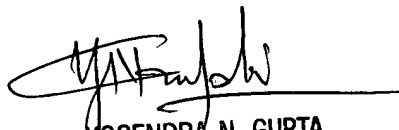
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 703-305-0178. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-872-9309.

Preeti Kumar
Examiner
Art Unit 1751

PK
January 13, 2003


YOGENDRA N. GUPTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700